

# PATENT SPECIFICATION



Convention Date (United States): Dec. 1, 1922.

219,995

Application Date (in United Kingdom): April 3, 1923. No. 18,339/24.

Complete Accepted: Oct. 3, 1924.

## COMPLETE SPECIFICATION.

### Improvements relating to Dyeing Silk Black.

We, STANDARD SILK DYEING COMPANY, a corporation organised and existing under the laws of the State of New Jersey, of Van Houten and Mill Streets, Paterson, State of New Jersey, United States of America (Assignees of JOSEPH SEYER, a citizen of the United States of America, of Hawthorne, State of New Jersey, United States of America) do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a new article of manufacture or product consisting of a washable black silk and the process of producing and dyeing same.

The object of the present invention is to provide an improved process of treating and dyeing silk black which may be carried out with facility and at a low cost and to produce a washable black silk which may be washed in warm soapy water without becoming spotted or irregularly changed in colour.

A further object is to avoid the uneven dyeing and undesirable results obtained by mordanting silk previous to the beginning of the dyeing operation. A still further object is to produce piece goods of black silk which will be relatively fast to perspiration, light and ironing. It is also an object to produce the above results with pure silk and also with mixed goods.

The present invention consists in a process of producing washable black silk piece goods which comprises treating the goods in an aqueous liquor containing fustic and hematine extracts, adding an iron salt, such as black iron, to the said liquor and then fixing the black upon the fabric by the aid of tannic acid and tartar emetic.

Further features of the invention will [Price 1/-]

be hereinafter described and delimited in the appended claims.

In carrying the invention into effect according to one convenient mode we proceed as follows:—The piece goods are dyed in a bath composed of 500 gallons water, 30% by weight of fustic extract, 10% by weight of hematine extract (oxidised logwood). The goods are worked in the liquor at the boiling temperature for 20 minutes, and then to the same liquor are added 25% by weight of black iron, 4% by weight of blue stone, and 20% by weight acetic acid (to dissolve precipitate in the bath). The goods are worked at the boiling temperature for one hour, and are then washed well. The goods are now treated in another bath composed of 500 gallons boiling water, 30% hematine extract, and 50 lbs. soap, and they are worked therein for one hour, and then washed. The next step consists in treating the goods in a bath of 500 gallons water at 180° F., containing tannic acid in the proportion of six pounds tannic acid per 250 gallons of dye liquor. This is followed by a tartar emetic treatment, that is to say, the goods are treated in a cold water bath of 250 gallons with 4½ lbs. of tartar emetic for a period of 40 minutes. The final dyed goods are given two cleansing soap baths at a boiling temperature, and then washed well and acidulated. There is thus produced a washable black which will not impart a black or dark colour to a washing soap liquid below 160° F. or thereabouts.

As a result of the above process there are produced black silk piece goods which are washable, that is, they may be washed in water containing soap at a temperature of 110° F., and they will, in most cases, stand 180° F. without suffering unevenness in shade or colour, or distinct loss of colour. In addition to the highly desir-

able quality of being washable, these piece silks have also the property of being washable without imparting any substantial amount of their colour to the washing liquid, such as water or soap solution.

Our new silk goods may accordingly be distinguished from other silk goods by noting several of their qualities as follows: They have been dyed in the piece and are fast to washing in lukewarm soapy water (about 110° F.) but not fast to boiling soapy water although, as before stated, they may often stand higher temperatures than 110° F. up to about 160° F. A still further characteristic of our silk piece goods is that they will not "bleed" in cold water, that is, impart colour thereto, nor will they readily show the marks and effects of perspiration. They may be washed together with silk, cotton, artificial silk, wool, etc. without staining them, the temperature being about 110° F. as above. They also have excellent fastness to light and ironing.

While our silk piece goods have been described as being of unmixed silk, it is also possible to make mixed silk goods, such as silk and cotton, by the above described processes according to the nature of the result desired.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process of producing washable

black silk piece goods which comprises treating the goods in an aqueous liquor containing fustic and hematine extracts, adding an iron salt, such as black iron, to the said liquor and then fixing the black upon the fabric by the aid of tannic acid and tartar emetic.

2. A process of producing washable black silk piece goods as claimed in Claim 1 in which predetermined quantities of blue stone and acetic acid are also added to the liquor containing fustic and hematine extracts.

3. A process of producing washable black silk piece goods as claimed in Claim 1 or 2 in which the goods are worked in the liquor containing fustic and hematine extracts at a boiling temperature for a predetermined period of time prior to the adding of the iron salt.

4. A process of producing washable black silk piece goods as claimed in any of the preceding claims in which the goods, after being treated with tartar emetic, are cleansed in a boiling soap solution.

5. A process of producing washable black silk piece goods substantially as hereinbefore described.

6. Black silk piece goods fast to washing in lukewarm soapy water but not fast to boiling aqueous soapy liquid whenever produced by any of the processes herein described or claimed.

Dated this 3rd day of April, 1923.

MARKS & CLERK.